

## ABSTRACT

A programmed material consolidation apparatus includes at least one fabrication site and a material consolidation system associated with the at least one fabrication site. The at least one fabrication site may be configured to receive one or more fabrication substrates, such as semiconductor substrates. A machine vision system with a translatable or locationally fixed camera may be associated with the at least one fabrication site and the material consolidation system. A cleaning component may also be associated with the at least one fabrication site. The cleaning component may share one or more elements with the at least one fabrication site, or may be separate therefrom. The programmed material consolidation apparatus may also include a substrate handling system, which places fabrication substrates at appropriate locations of the programmed material consolidation apparatus.